

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 12 as follows:

Stepped or Fresnel lenses go back to the French physicist Augustin Jean Fresnel, who created this optical element, which is also referred to as an annular lens, back in the nineteenth century. In contrast to the optical lenses with a solid body that are otherwise used, stepped or Fresnel lenses have concentric steps, which are, arranged essentially perpendicular to the principal plane of the lens and between which annular segments are situated. The shape of the optically effective surfaces of the annular segments approximately corresponds to the shape of surface segments of a normal lens with a solid body, but said surfaces lie substantially nearer to the opposite surface of the respective lens. Furthermore, the optically essentially noneffective areas of the steps are arranged as far as possible parallel to the main direction of light propagation in order to generate the smallest possible reflections or little undesirable scattered light. Therefore, to an approximation, except for disturbances caused by the steps, a Fresnel lens has similar imaging properties to a normal lens. Despite said disturbances, however, the Fresnel lens has significant advantages over conventional lenses which make this type of lens the distinctly preferred or else only possible choice in many applications. Fresnel lenses have a smaller thickness, require less optical material, are consequently lighter and have a lower absorption and thus also less heating-up particularly when they are used in lighting devices with high light intensities.

Please amend the paragraph beginning at page 2, line 11 as follows:

Fresnel lenses are used highly advantageously for example in stepped spotlights for theater, stage, studio, film or else for ~~architectonic~~ architectural or design illumination.

Please amend the paragraph beginning at page 5, line 16 as follows:

~~This object is achieved in a surprisingly simple manner by means of the features of claim 1.~~

Please amend the paragraph beginning at page 5, line 19 as follows:

If, in the case of the optical arrangement according to the invention for illumination purposes, in particular for a stepped lens spotlight, a diffusing screen is arranged in a first region and a stepped lens is arranged in a second region, it is possible, in a surprisingly simple and extremely flexible manner, ~~with the change in the shape of the light impinging on the optical arrangement and/or the size of the light illuminating the optical arrangement~~, it is possible to change the aperture angle α of the light emerging from the optical arrangement, in particular set said angle between two limit values, a smaller α_{Sp} and a larger α_{F1} .

Please amend the paragraph beginning at page 6, line 10 as follows:

One major advantage is that when an illuminating light cone is passed through the optical arrangement, it is possible, just by altering the position of the light cone relative to the optical arrangement, to achieve a change in the luminous angle, for example from 8° to 60° , from 8° to 70° or even from 4° or 8° to 80° , with a homogeneous change in the light distribution.

Please amend the paragraph beginning at page 6, line 24 as follows:

It is possible in a surprisingly simple manner in this case to change the aperture angle continuously and in the process [[always]] to always maintain a homogeneous illumination within the illuminated angular range.

Please amend the paragraph beginning at page 6, line 29 as follows:

The combination of geometrical-optical imaging of the stepped lens with a scattering lobe – [[superposed]] superimposed thereon – of the light scattered at the diffusing screen also permits lighting illumination light distributions in the case of which not only is it possible to suppress the light source or luminous body image, but it is even possible to greatly reduce or avoid faults of illuminating beam paths given a suitable choice of the diffusing structure and the geometrical dimensioning thereof.

Please amend the paragraph beginning at page 7, line 6 as follows:

An application of particular interest is found in the case of reflector arrangements with a relatively small light source in relation to their holder, such as, for example, a high-pressure discharge lamp having emission ranges of the order of magnitude of a few millimeters and distinctly larger holder diameters. In the case of light sources of this type, the central light field can be darkened by virtue of the fact that the holder passing through the reflector requires an opening within the reflector which is distinctly larger than the light source and light beams thus cannot be reflected near the optical axis within said opening. By virtue of a suitable choice of the forward scattering lobe of the light-diffusing device, preferably a circular central diffusing screen, it is possible, surprisingly, essentially to retain the [[geometrically]] optical properties of the stepped lens and a central intensity decrease can nevertheless be avoided.

Please amend the paragraph beginning at page 7, line 28 as follows:

In the most preferred embodiment, the first and second regions that are in each case accorded to the stepped lens and the diffusing screen occupy real surfaces of the optical arrangement, preferably concentrically arranged surfaces having different diameters ($2R_{St1}$, $2R_{strA}$) ($2R_{St1}$, $2R_{strA}$).

Please amend the paragraph beginning at page 9, line 12 as follows:

In this case, the round light field of the spot position, in the event of adjustment, may for example undergo transition to a nonround, for example square, light field if the light cone, although still covering the entire diffusing screen diameter $2R_{strA}$, no longer covers the stepped lens. With further adjustments and the light cone becoming smaller, the light field may once again undergo transition to a differently shaped, for example elliptical, light field if the light cone only covers an internal diameter $2R_{St1}$, the portions of which direct the light only into the elliptical light field.

Please amend the paragraph beginning at page 9, line 27 as follows:

Furthermore, the subdivision of the diffusing screen into regions having different scattering behaviors also permits the type of light incidence to become controllable. The round light field of the spot position, in the event of adjustment, may for example firstly undergo transition to a square light field with a soft edge fall if the light cone, although still covering the entire diffusing screen diameter $2R_{StrA}$, no longer covers the stepped lens and, with further adjustment and the light cone becoming smaller, the light field may undergo transition to a light field with a hard edge fall if the light cone only covers an internal diameter $2R_{StrI}$, the portions of which direct the light only into the square light field but only into the latter very much more exactly.

Please amend the paragraph beginning at page 10, line 19 as follows:

If the stepped lens has a basic body with an ~~optically beam shapingly effective~~, essentially concave surface, it is thereby possible to take account of more complex optical requirements since this makes it possible to define concave-convex or biconcave lenses, for example, in which the stepped lens and also the basic body thereof become [[geometrically-]] optically effective.

Please amend the paragraph beginning at page 42, line 14 as follows:

In the embodiments described above, the first and second regions which are in each case assigned to the stepped lens and the diffusing screen occupy real surfaces of the optical arrangement, in the form of concentrically arranged surfaces having different diameters $(2R_{St1}, 2R_{strA})$ $(2R_{StrI}, 2R_{strA})$. In this case, the diffusing screen lies within a circle having the radius R_{strA} R_{strA} and is subdivided once again in a further configuration.

Please amend the paragraph beginning at page 42, line 21 as follows:

The diffusing screen having the radius R_{strA} R_{strA} contains a concentric smaller circle having the diameter R_{strI} $2R_{strI}$, which has a different diffusing behavior in this alternative configuration.

Please amend the paragraph beginning at page 43, line 15 as follows:

The subdivision of the diffusing screen into regions having different scattering behaviors, in particular different degrees of scattering behavior, also permits the type of light incidence to become controllable. The round light field of the spot position, in the event of adjustment, may for example firstly undergo transition to a square light field with a soft edge fall if the light cone, although still covering the entire diffusing screen diameter $2R_{StrA}$, no longer covers the stepped lens and, with further adjustment and the light cone becoming smaller, the light field may undergo transition to a light field with a hard edge fall if the light cone only covers an internal diameter $2R_{StrI}$, the portions of which direct the light only into the square light field but only into the latter very much more exactly.